

# **APPENDIX E**

## **MANAGEMENT PROCEDURES**

## TABLE OF CONTENTS

1.	Management of Forest Stand Cohorts (Westside) .....	3
2.	Assessing Hydrologic Maturity.....	5
3.	Identifying and Protecting Riparian and Wetland Management Zones in The West-Side HCP Planning Units, Excluding The OESF (August 1999).....	7
4.	Identifying and Protecting Cultural Resources .....	13
5.	Visual Management .....	15
6.	Maximum Size for Even-Aged Final Harvest Units .....	17

## **1. Management of Forest Stand Cohorts (Westside)**

PR 14-006-090 Date: January, 2007

**Application: All forested state trust lands west of the Cascade Crest.**

### **DISCUSSION**

Forest stand “cohorts” are forest stand components whose management objectives make them statistically distinct. For example, legacy cohorts such as live wildlife reserve trees, snags, and down dead logs, are statistically distinct because statutes, regulations, and the Department’s HCP require their management and retention beyond a single rotation. These multi-rotational cohorts co-exist with one or more rotational, commercial cohorts within the same forest management unit (FMU). Legacy cohorts are managed to achieve environmental FMU objectives (such as wildlife and mycorrhizal habitats). One or more commercial cohorts within the same FMU are managed to achieve economic FMU objectives by generating revenue for the trusts.

The purpose of this procedure is to provide unified direction for management of forest stand cohorts. This procedure will result in a structured silvicultural approach that reaches beyond uniformly applied classical even-aged—clearcut, seed tree, and shelterwood—and uneven-aged silvicultural systems. This approach, cohort management, synchronizes with site-specific silvicultural prescriptions that simultaneously manage distinct cohorts to achieve rotational and multi-rotational social, environmental, and economic FMU objectives. The department will include provisions of this procedure in its training program.

### **Action**

Safety regulations pre-empt all other requirements and should be assessed to maintain worker safety while also ascertaining that other resources and objectives are addressed. See also TK 14-006-093, *Forest Worker Safety and Operational Considerations for Leave Tree Locations*.

Cohort management shall integrate relevant social, environmental, and economic FMU objectives into site-specific, rotational silvicultural prescriptions that are optimal bio-diversity pathways for each particular situation. Cohorts may serve multiple FMU objectives. Stand-level silvicultural prescriptions provide the means to realize broader landscape objectives.

At least one commercial cohort shall be managed, generally on a rotational basis, for maximum benefit to trust beneficiaries, consistent with other FMU and landscape objectives.

Multi-rotational (legacy) cohorts shall be managed to levels directed in the table below.

Legacy Cohort Management Guidelines*			
Legacy Cohort	Average /Acre	Dimensions	Proximity
Very Large Diameter, Structurally Unique Conifers (when present, may be used in lieu of wildlife trees, snag recruits, and snags—listed below)	≥ 8/acre (the BNR will be notified (per the Old-Growth Timber Harvest Deferral [Westside] procedure) if any very large diameter, structurally unique conifers are harvested	Native conifer species Generally ≥ 60" DBH Large strong limbs Open crown Hollow trunk Broken top and limbs Deeply furrowed bark	NA
Large, Structurally Unique Green Trees Suited for Wildlife	≥ 2 trees	<ul style="list-style-type: none"> <li>• ≥ 1 tree, from largest diameter class</li> <li>• ≥ 1 tree, from dominant crown class</li> </ul>	At least 1 clump per 5 acres, or generally 400 feet or less from any point in the FMU to a green leave tree; leave trees should be toward FMU interior, except as needed for ecological objectives
Snag Recruits	≥ 3 trees	<ul style="list-style-type: none"> <li>• Intermediate to dominant crown class</li> <li>• ≥ 10 inches DBH, ≥ 30 feet in height, and ≥ 33 percent live crown ratio</li> <li>• Select larger diameter trees first, preferably those with structural deformities and cavities</li> </ul>	
Snags (standing dead trees suitable for wildlife)	≥ 3 snags (safety requirements shall be met)	<ul style="list-style-type: none"> <li>• ≥15 inches DBH, ≥ 30 feet tall, if available</li> <li>• Select largest diameter class cavity trees first</li> <li>• If snags cannot be left safely, replace with suitable live trees</li> </ul>	Leave snags as consistent with safety requirements
Down dead wood	≥ 2 logs	<ul style="list-style-type: none"> <li>• Small end diameter ≥ 12 inches, length ≥ 20 feet</li> <li>• Select larger diameter logs first</li> </ul>	None
<b>* Table Notes:</b> <ol style="list-style-type: none"> <li>1. Very large diameter, structurally unique conifers, if present, supersede the requirements for the next three categories (i.e., large structurally unique trees, snag recruits, and snags).</li> <li>2. The table minimums originate from WACs or the HCP; they may be modified for safety reasons as specified in TK 14-006-093, <i>Forest Worker Safety and Operational Considerations for Leave Tree Locations</i>.</li> <li>3. Acre-by-acre densities are variable—to include clumping—so long as proximity criteria are followed and FMU averages meet or exceed minimum requirements. FMU-specific objectives may dictate higher—but not lower—retention levels, particularly when managing for habitat objectives and combined effects of social, environmental,</li> </ol>			

and economic landscape and FMU objectives. --Scatter leave trees in clumps or individually, depending on specific habitat objectives for that area, throughout the management unit where practicable. For example, trees may be clumped to improve wildlife habitat and/or to protect trees from severe weather conditions. Where practicable, the density of clumps will not be less than one clump per five acres unless done to meet a specific ecological objective.

4. Leave tree clumps may be created of sufficient size to safely accommodate hazardous wildlife trees or snags.
5. Retain additional live trees if fewer than three snags per acre are available prior to harvest, or if fewer than three snags per acre can be left due to safety concerns. The average total number of stems per acre retained after harvest is at least eight.
6. Priority for retention will be given to tree species with propensity to develop cavities. Choose large trees with structural characteristics important to wildlife (e.g., large limbs, open crowns, runners, broken tops, etc) and those considered to be old growth remnants.
7. Legacy tree species in the stand after harvest should be generally representative of the legacy species diversity prior to harvest.
8. Land Management Division Manager may approve alternate leave tree levels provided that legal, regulatory, and HCP intent remains.

## **2. Assessing Hydrologic Maturity**

Date: August, 1999

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, excluding the Olympic Experimental State Forest Planning Unit**

### **DISCUSSION**

This procedure defines DNR's approved method to evaluate stands for Habitat conservation Plan (HCP) hydrologic maturity requirements. (Hydrologic maturity is defined as a well stocked conifer stand over the age of 25 years, with a relative density (RD) of at least 25.) These requirements are designed to minimize adverse impacts caused by rain-on-snow events to ecosystems that support salmonids. Hydrologic maturity is accomplished by maintaining an adequate amount of forest land within rain-on-snow zones in forests that are hydrologically mature with respect to rain-on-snow events.

The department intends to provide a standard level of protection as described below except in those basins where watershed analysis has been conducted. In those basins the drainage basin prescriptions developed by applying the Hydrologic Change Module of Watershed Analysis may be used.

### **Action**

(1) Determine if the sub-basin has previously been evaluated under HCP guidelines for rain-on-snow.

(a) End the procedure if the sub-basin has been evaluated for rain-on-snow and it has been determined that rain-on-snow guidelines do not apply.

(2) Generate a sub-basin work map that includes Watershed Administrative Unit (WAU) boundaries, topography, ownership (DNR and other), stand age, roads, natural non-forested areas, streams, rain-on-snow area boundaries.

(a) Identify and mark the downstream ends of all Type 1, 2, and 3 waters on the work map. This identifies the downstream boundary of the sub-basins.

(b) Starting from the upper end of the WAU, determine the size of each sub-basin.

i.) If the sub-basin is smaller than 1,000 acres:

- combine sub-basins with the next logical downstream sub-basin(s) to create a basin greater than 1,000 acres.

- retain as a small basin if the sub-basin flows into sensitive water such as large lakes, reservoirs, or fish hatcheries. Sub-basins that are less than 500 acres in size will normally not be analyzed. The state lands assistant will determine if sub-basins less than 500 acres will need to be managed to meet HCP hydrologic maturity requirements.

(c) Mark areas that are "permanent" mature forest land (e.g., national parks, federal Late-successional Reserves, Natural Area Preserves (NAPs), Natural Resource Conservation Areas (NRCAs), gene pool reserves, etc.), and permanent non-forest land (rock outcrops, talus slope, boulders etc.).

(3) Determine which sub-basins will not be managed to meet HCP hydrologic maturity requirements and submit that information for Geographic Information System (GIS) input. Do not manage sub-basins to meet HCP hydrologic maturity requirements when:

(a) less than one-third of the sub-basin's area is within the rain-on-snow and snow-dominated zones combined.

(b) at least two-thirds of the sub-basin's area is within the rain-on-snow and snow dominated zones combined, is covered by hydrologically mature forests, and there is a reasonable assurance that it will remain in that condition (e.g., national parks, federal Late-successional Reserves, NAPs, NRCAs, gene pool reserves, etc.).

(c) less than one-half of the sub-basin's area is within the rain-on-snow and snow dominated zones combined, is DNR-managed, and there is no reasonable assurance (e.g., via an HCP or other land management plan) that other landowners will contribute to hydrologically mature forests (i.e., other land owners may manage on a 40 year rotation, or have agricultural or developed lands).

(4) Evaluate the remaining sub-basins that will be managed to meet HCP hydrologic maturity requirements.

(a) Determine the number of acres within the sub-basin that are managed by DNR and that are within the rain-on-snow and snow dominated zones combined. Determine the target (two-thirds) that needs to be maintained in a hydrologically mature status.

i.) Evaluate DNR-managed stands for hydrologic maturity. A stand must:

- Have a conifer relative density of at least 25 to be considered well-stocked, and
- Be 25-years old or older.

(5) Determine whether the sub-basin has a surplus (more than two-thirds) or a deficit (less than two-thirds) of hydrologically mature stands. Proceed with management activities that remove hydrologically mature stands only if a surplus exists.

(6) Obtain region manager approval for road construction in sub-basins where the amount of hydrologically mature stands does not meet the threshold.

### **3. Identifying and Protecting Riparian and Wetland Management Zones in The West-Side HCP Planning Units, Excluding The OESF (August 1999)**

**Cancels: PR 14-004-150 IDENTIFYING AND PROTECTING RIPARIAN AND WETLAND MANAGEMENT ZONES IN THE WESTSIDE HCP PLANNING UNITS, EXCLUDING THE OESF (August 1999).**

Date: April, 2006

**Application: Westside HCP Planning Units, Excluding the OESF Planning Unit**

#### **DISCUSSION**

The riparian strategy for west side planning units, excluding the OESF, has a two-fold objective of:

- (1) Maintaining or restoring freshwater habitat for salmonid species; and
- (2) Contributing to the conservation of other species that are dependent upon aquatic and riparian areas. This is accomplished by identifying riparian and wetland areas and ensuring that management activities within those areas adequately protect riparian function.

Riparian function can be viewed from both societal and ecological perspectives. From a societal perspective, riparian function includes production of commodities and other services for human

benefit. Salmon, wildlife, and timber are examples of the commodities produced by riparian ecosystems. The delivery of high quality water, flood control, and recreation are examples of services provided by riparian ecosystems. From an ecological perspective, riparian function can be viewed as providing habitat for numerous plant and animal species including clean water, shade, large woody debris and detrital nutrients for salmon habitat, damp soil and logs for terrestrial amphibian habitat, snags for cavity nesting birds, etc.

The Implementation Procedures for the Riparian Forest Restoration Strategy will be followed to identify and manage riparian and wetland zones. The riparian management zone consists of a managed riparian buffer and, where appropriate, a wind buffer to protect the integrity of the managed riparian buffer. The riparian buffer has been designated to maintain/restore riparian processes that influence the quality of salmonid freshwater habitat and contribute to the conservation and restoration of other aquatic and riparian obligate species. Consideration has been given to water temperature, stream bank integrity, sediment and detrital nutrient load, and large woody debris.

### **Action**

1. The first step in implementing the Riparian Forest Restoration Strategy is to verify the accuracy of water-type information for all waters currently designated as Type 4 or 5 and are located within the boundary of the proposed activity. Among others, either or both of the following two methods may be used:

(a) Water type may be verified through consultation with fisheries biologists from DNR, tribes, or other agencies.

(b) Water type information may be verified by certified and/or trained personnel using the protocol specified in WAC 222-16-030, Washington Forest Practices Board Emergency Rules (stream typing), November 1996 and the Forest Practices Board Manual.

This stream typing system will now be officially referenced as the “Water Typing System for Forested State Trust Lands”. The “water typing System for Forested State Trust Lands” complete provisions are in the table below:

### **Type 1**

Type 1 Water means all waters, within their ordinary high-water mark, as inventoried as “shorelines of the state” under chapter 90.58 RCW and the rules promulgated pursuant to chapter 90.58 RCW, but not including those waters’ associated wetlands as defined in chapter 90.58 RCW.

### **Type 2**

Type 2 Water shall mean segments of natural waters that are not classified as Type 1 Water and have a high fish, wildlife, or human use. These are segments of natural waters and periodically inundated areas of their associated wetlands, which:



(a) Are diverted for domestic use by more than 100 residential or camping units or by a public accommodation facility licensed to serve more than 100 persons, where such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type 2 Water upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less;

(b) Are diverted for use by federal, state, tribal or private fish hatcheries. Such waters shall be considered Type 2 Water upstream from the point of diversion for 1,500 feet including tributaries if highly significant for protection of downstream water quality. The department may allow additional harvest beyond the requirements of Type 2 Water designation provided the department determines after a landowner-requested on-site assessment by the department of fish and wildlife, department of ecology, the affected tribes and the interested parties that:

i) The management practices proposed by the landowner will adequately protect water quality for the fish hatchery; and

ii) Such additional harvest meets the requirements of the water type designation that would apply in the absence of the hatchery;

(c) Are within a federal, state, local, or private campground having more than 30 camping units: Provided, That the water shall not be considered to enter a campground until it reaches the boundary of the park lands available for public use and comes within 100 feet of a camping unit, trail or other park improvement;

(d) Are used by substantial numbers of anadromous or resident game fish for spawning, rearing or migration. Waters having the following characteristics are presumed to have highly significant fish populations:

i) Stream segments having a defined channel 20 feet or greater in width between the ordinary high-water marks and having a gradient of less than 4 percent.

ii) Lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water.

(e) Are used by salmonids for off-channel habitat. These areas are critical to the maintenance of optimum survival of juvenile salmonids. This habitat shall be identified based on the following criteria:

i) The site must be connected to a stream bearing salmonids and accessible during some period of the year; and

ii) The off-channel water must be accessible to juvenile salmonids through a drainage with less than a 5% gradient.

### **Type 3**

Type 3 Water shall mean segments of natural waters that are not classified as Type 1 or 2 Water and have a moderate to slight fish, wildlife, and human use. These are segments of natural waters and periodically inundated areas of their associated wetlands which:

(a) Are diverted for domestic use by more than 10 residential or camping units or by a public accommodation facility licensed to serve more than 10 persons, which such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type 3 Water upstream from the point of diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less;

(b) Are used by significant numbers of anadromous or resident game fish for spawning, rearing or migration. Guidelines for determining fish use for the purpose of typing waters are described in Appendix 3. If fish use has not been determined:

i) Waters having the following characteristics are presumed to have significant anadromous or resident game fish use:

(A) Stream segments having a defined channel of 2 feet or greater in width between the ordinary high-water marks in Western Washington and having a gradient 16 percent or less;

(B) Stream segments having a defined channel of 2 feet or greater in width between the ordinary high-water marks in Western Washington and having a gradient greater than 16 percent and less than or equal to 20 percent; and having greater than 50 acres in contributing basin size in Western Washington;

ii) The department shall waive or modify the characteristics in (i) above where:

(A) Waters are confirmed, long term, naturally occurring water quality parameters incapable of supporting anadromous or resident game fish;

(B) Snowmelt streams have short flow cycles that do not support successful life history phases of anadromous or resident game fish. These streams typically have no flow in the winter months and discontinue flow by June 1; or

(C) Sufficient information about a geographic region is available to support a departure from the characteristics in (i), as determined in consultation with the department of fish and wildlife, department of ecology, affected tribes and interested parties.

iii) Ponds or impoundments having a surface area of less than 1 acre at seasonal low water and having an outlet to an anadromous fish stream.

iv) For resident game fish ponds or impoundments having a surface area greater than 0.5 acre at seasonal low water.

(c) Are highly significant for protection of downstream water quality. Tributaries which contribute greater than 20 percent of the flow to a Type 1 or 2 Water are presumed to be significant for 1,500 feet from their confluence with the Type 1 or 2 Water or until their drainage area is less than 50 percent of their drainage area at the point of confluence, whichever is less.

#### **Type 4**

Type 4 Water classification shall be applied to segments of natural waters which are not classified as Type 1, 2 or 3, and for the purpose of protecting water quality downstream are classified as Type 4 Water upstream until the channel width becomes less than 2 feet in width between the ordinary high-water marks. Their significance lies in their influence on water quality downstream in Type 1, 2, and 3 Waters. These may be perennial or intermittent.

#### **Type 5**

Type 5 Water classification shall be applied to all natural waters not classified as Type 1, 2, 3, or 4; including streams with or without well-defined channels, areas of perennial or intermittent seepage, ponds, natural sinks and drainage ways having short periods of spring or storm runoff.

2. After verification of water type information, or the decision to manage Type 4 or 5 Waters as Type 3, Step 2 in implementing the Implementation Procedures for the RFRS is to determine the boundary of the riparian management zones for the proposed activity. This step has 3 parts. First, the 100-year flood plain must be identified for all Types 1, 2, 3, and 4 Waters; it is from the outer edge of this area that the riparian buffer is measured. Second, the appropriate riparian buffer must be identified. Third, the need for a wind buffer must be evaluated and, if needed, located.

(a) Identify the 100-year flood plain for each Type 1, 2, 3, and 4 Water. Among others, any, or a combination, of the following methods may be used:

i) Identify the 100-year flood plain using information from FEMA (Federal Emergency Management Agency) or insurance rate maps.

ii) Identify the 100-year flood plain. One method that may be used is the following field location method, a modification of the of the information contained in the Forest Practices Board manual's The Standard Methods for Measuring Physical Parameters of a Stream (dated 7/95). Using this method, averages for stream reaches may be determined by:

A. Establish the ordinary high water mark (OHWM) using vegetation or historical evidence.

B. Divide the OHWM channel width into at least 4 equal sections.

C. At the edge of each section, measure the depth from the elevation of the OHWM to the stream bottom.

D. Calculate the average depth by adding all of the depths measured in C. above together, the dividing the total by the number of measurements.

E. Calculate the 100-year flood plain elevation by adding the value calculated in D. above for the average depth of the elevation of the OHWM (doubles the average channel depth).

F. Field locate the intersection of the 100-year flood plain with each side of the channel bank using hand levels and level rods, or clinometers and measuring tapes.

OR

G. By calculating the distance from the OHWM to the 100-year flood-level intersection using ground slope measurements taken in the field. (Example: For channel with bank slopes of 10% on each side and an average depth to OHWM of 1.2 feet, the distance is equal to rise over run, so divide 1.2 feet by .1 to yield a horizontal distance of 12 feet from the OHWM to the 100-year flood plain.

(b) Next, identify and measure the riparian buffer, using horizontal distance, from the outer edge of the 100-year flood plain or the boundary of the wetland (wetlands identified using the Forest Practices Board manual's guidelines for Wetland Delineation, dated 6/93). The appropriate buffer width is dependent upon water type for streams, size for wetlands, and the site index of conifer stands one would expect to develop in the area.

i) For Type 1, 2, and 3 Waters, and for all wetlands that are greater than 1 acre in size, the average width of the riparian buffer will be equal to or greater than the average height an adjoining conifer stand would be expected to reach at 100 years of age (using the site index, which may be determined by using one or more of the following methods: State Soil Survey data, Forest Resource Inventory System data (FRIS), on-site calculation from fixed or variable radius plots taken every 660 feet on a transect that parallels the stream with at least two dominant conifer trees per plot and site calculated using site table or DNR Intensive Management Planning System (DNRIMPS) or other appropriate growth and yield model). Regardless of site index, the average width of the buffer will also be no less than 100 feet.

ii) For Type 4 Waters, and for all wetlands between .25 and 1 acre in size, the width of the riparian buffer will be 100 feet.

(c) The final step in identifying the riparian management zone is to evaluate the need and, if needed, the appropriate width and location for wind buffers to protect the integrity of the riparian management zone.

i) Determine if at least a moderate risk of windthrow exists for all Type 1 and 2 Waters, and for Type 3 Waters equal to or greater than 5-feet wide. Moderate is defined as 45 percent or more blowdown after 5 years and it is determined using

local knowledge, the Buffer Strip Survival Rate Worksheet (from Steinblums, Froehlich, and Lyons, Designing Stable Buffer Strips For Stream Protection), or other model approved by the State Lands Assistant. Where at least a moderate risk exists, apply a 100-foot (horizontal distance) wind buffer on Type 1 and 2 Waters, and a 50-foot wind buffer on Type 3 streams greater than 5-feet wide. The buffer shall be located on the windward side of the stream.

ii) Type 2 Waters less than 5 feet wide, and Type 4 and 5 Waters will not have a wind buffer. Wetlands will not receive a wind buffer, except for those that meet the description of “off-channel habitat” as discussed in WAC 222-16-030 (dated 6/93), page 16-10 under (2) “Type 2 Water,” which will be treated as Type 2 Waters.

3. Once the riparian management zone, and wetlands and their associated buffers, has been identified, proposed management activities will be evaluated based on section 2 of the Implementation Procedures for the Habitat Conservation Plan Riparian Forest restoration Strategy, attached.

#### **4. Identifying and Protecting Cultural Resources**

Cancels: [PR 14-004-030](#), IDENTIFYING HISTORIC SITES (July 1992).

Date: April, 2007

**Application: All forested state trust lands**

##### **DISCUSSION**

The Policy for Sustainable Forests mandates identification and protection of significant cultural resources. Department policy is to:

- Identify historic and archaeological sites and protect those that are significant, consistent with state and federal law
- Proactively collaborate with Tribes and interested stakeholders to address culturally significant areas
- Consider transferring historic, archaeological, and cultural sites out of trust status when consistent with best interest of the trusts and adequate compensation is secured

“Cultural resources” is therefore divided into traditional places, historic sites, and archaeological resources.

*Traditional places* are landscapes, sites, places, legendary areas, and objects identified by affected tribes in Washington State as being important for the maintenance and perpetuation of their traditional values and practices.

*Historic sites* are locations, generally 50 years old or older, where native or non-native events and activities have taken place since the arrival of Euro-Americans. Historic sites often have written records that document the events and activities that occurred at a particular location.

*Archaeological resources* are the material remains of cultures in context or in place, including artifacts and features left on the landscape. Artifacts are the physical tools and implements of a culture (i.e., manufactured, human-altered items). Features are physical alterations in the natural environment. An archaeological site is a geographic location in which archaeological resources are present. These sites may reflect spatial and/or temporal land use.

The department intends to give special consideration to historical and cultural concerns of the Tribes. The department recognizes that Native Americans have a special interest in forested state trust lands. Where possible, DNR intends to work with the tribes to protect their heritage.

The department intends to pursue a long-range cultural resources strategy, consistent with budget and fiscal responsibilities. Cultural resources will be identified and protected as appropriate.

## **Action**

### **1. Identification (Training)**

Selected field personnel will receive training to identify, recognize, and report cultural resources. Training will be consistent with applicable laws, regulations/rules, policies, and other imperatives as determined by the Land management Division manage and will be updated as laws, regulations/rules, policies, and other imperatives change.

#### Pre-Field Research for Ground Disturbance Activities

Pre-field research by selected field personnel will include but not be limited to:

1. Checking the Department of Archaeology and Historic Preservation (DAHP) database or TRAX for *Known State Recorded* sites.
2. Contacting, as appropriate, tribal Cultural Resource personnel to identify any *Known Tribally Recorded* sites.
3. Checking the Cultural Resource layer in the State Uplands Viewing Tool and the Government Land Office Maps for *Known Not Recorded* sites

4. For *Unknown Unrecorded* sites, checking USGS or DNR hydrological and topographical layers for high probability areas such as flat areas near permanent water, ridges, saddles, springs, and artificial landscape alterations (buildings, cemeteries, fields, roads, etc.)
5. Checking the State Uplands Viewing Tool or other readily available sources for predictive models for the project area.

## **2. Field Evaluation and Protection**

If Cultural Resources are indicated above, the District Cultural Resource Technician or the State Lands Archaeologist will investigate the area. Survey methodology and reporting should meet standards established by DAHP.

These personnel will design evaluation methodology and protection measures that should meet professional standards established by DAHP. Field staff will conduct forest management and related activities in accordance with these protection measures.

## **5. Visual Management**

Cancels: [PR 14-004-080](#) VISUAL MANAGEMENT, August 2006

Date: April, 2008

**Application: All Forested State Trust Lands.**

### **DISCUSSION**

The purpose of this procedure is to establish a process that integrates visual with financial and other important policy objectives in managing forested state trust lands. An important social concern is aesthetics. This concern creates a need for outcome-based landscape perspectives supported by silvicultural prescriptions that together balance management of aesthetics and other imperatives (such as certain wildlife habitats and forest health). Thus, when aesthetic concerns exist, the following process shall be put into action.

### **Action**

BNR policy requires the department to first consider whether visual impacts of management activities are of local significance or have wider public impacts, such as melding with other already established visually sensitive areas (e.g., on nearby federal lands or along major travel routes). For local impacts, mitigation would generally be through FMU design alterations. For wider impacts, the department will use the Forest Land Planning Process. This process will

assess visual impacts, appropriate mitigation measures (in light of known public concerns), and the resulting cost-benefit.

The resulting visual management process shall incorporate the following major steps. Regions may perform this process incrementally or as a part of the Forest Land Planning Process, as warranted by emerging visual issues.

**Step 1 – Recognize Potential Viewshed:** Delineate a potential viewshed, generally through public input. A viewshed should have a size and shape that includes the viewable area (i.e., reverse slopes of hills that are not seen from vantage points or trails should be excluded), and should distinguish local from wider implications. Viewsheds, particularly those with wider implications, should be recorded in GIS.

**Step 2 – Determine Objectives for the Viewshed:** Develop visual FMU objectives per PR 14-005-010 that are based on viewshed-landscape considerations. As Forest Land Planning is implemented, landscape-level objectives will be refined to include how large a portion of a viewshed must meet a specified visual stand condition at any point in time.

**Step 3 – Consider Altering the Silvicultural Prescription:** Meeting viewshed objectives should first be attempted through manipulation of FMU shape and size as well as placement and number of required leave trees. Target the leave tree arrangements to detract no more than approximately 25 percent from first decade uninhibited growth potential for species prescribed for reforestation (equivalent to a Curtis' RD for leave tree legacies of less than 7.5 if the reforested cohort is Douglas-fir) and to ensure negligible impact on survival. However, leave tree arrangements should otherwise be responsive to visual issues such as nearness to viewpoints (roads, trails, vistas, etc.). The Forest Land Planning process is anticipated to account for cost/benefits to the trusts of landscape level mitigation strategies.

**Step 4 – Validate:** Once potential viewsheds and objectives are developed, they shall be recorded in a department-approved database.

In summary, local visual impacts are addressed through FMU configurations and/or scheduling, while visual issues with wider implications are dealt with through the Forest Land Planning process. Resulting FMU objectives and viewsheds shall be recorded in a department-approved database. In devising silvicultural prescriptions for viewshed FMUs, understory species shall be selected for potential future value and their ability to grow under the circumstances created, which must provide for generally unimpeded and sustained vigor.



## **6. Maximum Size for Even-Aged Final Harvest Units**

**Date: August, 2006**

**Application: All forested state trust lands designated for timber harvest.**

### **DISCUSSION**

This procedure outlines how to apply the department's intent to generally limit even-aged final harvest unit size to a maximum of 100 acres, or the legally required unit size of 40 acres in size when located on islands, per WAC 222-30-110, Timber Harvesting on Islands.

"Even-aged final harvest" means that there is a residual stand, meant to last through the next rotation, of fewer than 20 trees per acre that are 10 inches DBH or larger.

Even-aged final harvest units larger than 100 acres may be evaluated when there are special needs (e.g., timber salvage, forest health, land transaction, or environmental protection reasons).

Even-aged final harvest units may only be considered as single units for purposes of size determination if they are separated from adjacent openings as directed in WAC 222-30-025, Harvest Size and Timing.

### **Action**

1. Determine the size of the proposed even-aged final harvest unit.
  - a. If the even-aged final harvest unit is less than 100 acres, or less than 40 acres on an island proceed with your timber harvest plans.
  - b. Even-age final harvest units (Clearcut) located on an island cannot exceed 40 acres per WAC 222-30-110, Timber Harvesting on Islands.
  - c. If the even-aged final harvest unit is greater than 100 acres and the majority of timber is sold for salvage, forest health, land sale or purchase, land exchange or environmental protection reasons, seek region manager approval before including it in the timber sale harvest schedule.
    - (i). If region manager approves: end this procedure.
    - (ii). If region manager disapproves: reduce the size of the proposed even-aged final harvest unit so that it does not exceed 100 acres.